

REMARKS

Status Summary

Claims 1-9 are pending in the present application and claims 1-9 stand rejected. Claim 1 has been amended. Reconsideration of the application based on the arguments set forth hereinbelow is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,744,812 to Anne et al. (hereinafter, "Anne") in view of U.S. Patent No. 5,257,309 to Brandman et al. (hereinafter, "Brandman"). These rejections are respectfully traversed.

Claim 1 recites a codec circuit having a programmable digital bandpass filter for matching the filter characteristics of the codec circuit to a transmitted PCM signal. Further, claim 1 recites at least one programmable digital high-pass filter and at least one programmable digital low-pass filter connected in series. Claim 1 has been amended to recite that the codec circuit has a signal identification device configured to identify a type of modulation and transmission speed of a PCM signal transmitted within the codec circuit to determine whether the transmitted PCM signal originates from a terminal or from a telephone. Claim 1 also been amended to recite that the signal identification device is configured to set filter coefficients for the at least one programmable digital high pass filter and the at least one programmable digital low pass filter based on the identified type of modulation and transmission speed of the

transmitted PCM signal to vary a bandpass filter characteristic for the programmable digital bandpass filter to match that of the determined origin of the transmitted PCM signal.

Applicant respectfully submits that Anne and Brandman do not render obvious independent claims 1 and 8 or the claims that depend therefrom. In particular, these references do not disclose, teach or suggest each and ever feature recited in claims 1 and 8. For example, Anne and Brandman, either alone or in combination, do not disclose, teach or suggest that the codec circuit has a signal identification device configured to identify the type of modulation and transmission speed of a PCM signal transmitted within the codec circuit to determine whether the transmitted PCM signal originates from a terminal or from a telephone. In particular, when the signal identification device is also configured to set filter coefficients for the programmable digital high pass and low pass filters based on the identified type of modulation and transmission speed of the transmitted PCM signal to vary a bandpass filter characteristic for the programmable digital bandpass filter to match that of the determined origin of the transmitted PCM signal.

Anne discloses a network modem **130** that includes line coupling magnetics **200**, filters **204**, input and output amplifiers **208** and **212**, CODEC **216**, a digital signal processor **220**, and a media access controller **224**. The line coupling magnetics **200** connects the modem **130** to POTS lines. The filter bank **204** includes filters for signals received from the POTS line and filters for signals received from the CODEC **216** via the output amplifier **212**. The filters **204** preferably comprise "brick wall" bandpass

filters that pass the frequency band over which the network modem **130** communicates. Preferably, this frequency band ranges from approximately 2 MHz to 10 MHz. These frequencies ensure compatibility with existing phone networking systems and minimize interference within the lower frequency bands occupied by basic telephone and DSL services, without requiring excessive filter complexity. In a preferred embodiment, the frequency response is fixed, although the filters may be tunable if desired. (See Anne, Column 10, line 66 - Column 11, line 15.)

The amplifiers **208** and **212** adjust the signals leaving and entering the modem **130** to the appropriate voltage level. Accordingly, the CODEC **216** receives filtered POTS signals from the input amplifier **208** at the appropriate voltage levels and supplies outgoing signals to the POTS via the output amplifier **212**, which adjusts the outgoing signals for POTS levels and drives output filters in the filter bank **204**. (See Anne, Column 11, lines 16-22.)

Even though it is mentioned in Anne that the cut-off frequencies or other filter characteristics maybe "tunable" or "adjusted as desired," based on the preferred frequency band ranges that are from approximately 2 MHz to 10 MHz, it is clear that the device is configured for the transmission of voice signals. Modern signals in the range around 100 kHz to approximately 1.5 MHz are not generally transmitted through such an embodiment of Anne. In particular, Anne does not disclose, teach, or suggest using a signal identification device configured to identify a type of modulation and transmission speed of a PCM signal transmitted within the codec circuit to determine whether the transmitted PCM signal originates from a terminal or from a telephone and

configured to set filter coefficients for the at least one programmable digital high-pass filter and the at least one programmable digital low-pass filter based on the identified type of modulation and transmission speed of the transmitted PCM signal to vary a bandpass filter characteristic for the programmable digital bandpass filter to match that of the determined origin of the transmitted PCM signal.

Brandman does not overcome the shortcomings of Anne. Brandman discloses dual tone multifrequency signal detection and identification methods and apparatus. Dual tone multifrequency ("DTMF") signal pulses are detected and identified by subjecting the signal being analyzed to complex bandpass filtering for each of the two DTMF frequency bands. The envelope of the outputs of each of these filters are determined and subjected to a succession of different tests including a ripple or smoothness test to ensure adequate smoothness, a ratio test to ensure the occurrence of a step function, a twist test to ensure the proper amplitude ratio between the two bands, and a minimum energy test to ensure that the signal has sufficient energy. If the signal passes all of the detection tests, then the actual DTMF signal is identified by using the real and imaginary parts of each complex bandpass filter output to compute an associated complex phase angle, and comparing that phase angle to the corresponding phase angles for valid DTMF tones.

Basically, Brandman discloses tests to be performed after the filtering of a PCM signal (see Fig. 5a). However, Brandman does not disclose, teach, or suggest using a signal identification device to determine the origin of a transmitted PCM signal and to match that of the filter characteristics to the determined origin of the transmitted PCM

signal. Thus, Brandman does not disclose, teach, or suggest using a signal identification device configured to identify a type of modulation and transmission speed of a PCM signal transmitted within the codec circuit to determine whether the transmitted PCM signal originates from a terminal or from a telephone and configured to set filter coefficients for the at least one programmable digital high-pass filter and the at least one programmable digital low-pass filter based on the identified type of modulation and transmission speed of the transmitted PCM signal to vary a bandpass filter characteristic for the programmable digital bandpass filter to match that of the determined origin of the transmitted PCM signal.

Thus, for the reasons set forth above, independent claim 1 is not rendered obvious by Anne and Brandman, either alone or in combination. Claims 2-9 depend upon claim 1. Therefore, the comments presented above relating to claim 1 apply equally to claims 2-9. Accordingly, for the reasons provided above for claim 1, applicant respectfully requests that the rejection of claims 1-9 under 35 U.S.C. § 103(a) be withdrawn and the claims allowed at this time.

CONCLUSION

In light of the above Remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

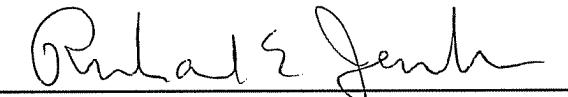
The Commissioner is hereby authorized to charge any additional fees associated with the filing of this correspondence to Deposit Account No. **50-0426**.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

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REJ/DMS/gwc

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